REMARKS

Claims 1, 5, 9, and 15 have been amended. Claims 1 through 15 remain in the application.

DOUBLE PATENTING

Claim 1 was provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 09/965,905. Applicants respectfully traverse this rejection.

As to co-pending Application No. 09/965,905, claim 1 claims a method of part flow for a programmable logic controller logical verification system. The method includes the steps of constructing a simulation model of a part flow in a manufacturing line using a computer and determining if the part flow represented in the simulation model is correct. The method also includes the steps of using the part flow simulation model to test PLC code and implementing the manufacturing line according to the part flow simulation model.

Independent claim 1 of the present application claims the present invention as a method of logical modeling operator interaction with a programmable logic controller logical verification system. The method includes the steps of constructing a flowchart of interaction of an operator in a workcell using a computer and testing whether logic of the flowchart is correct. The method also includes the steps of using the flowchart to test PLC code and building the workcell if the logic of the flowchart is correct.

The double-patenting doctrine precludes one person from obtaining more than one valid patent for the same invention or an obvious modification of an invention. Double patenting is concerned with attempts to claim the same or related subject matter twice. Thus, the standard for comparison for the second patent is what was *claimed* in the first patent, not what was

disclosed in the specification of the first patent. "In general, a rejection on grounds of double patenting relies upon an analysis similar to the obviousness analysis relevant to a rejection pursuant to § 102(e) and 103; the key difference is that a double-patenting rejection looks solely to the claims of the prior art reference, and not to the entire disclosure of the prior art reference, as the basis for comparison. . . . A rejection for obviousness must be based on a comparison of the invention to the entirety of the disclosure in the prior art reference, whereas an obviousness-type double-patenting rejection must be grounded on a comparison of the invention to the claims, and only the claims, of the prior art reference." Purdue Pharma L.P. v. Boehringer Ingelheim GmbH, 98 F.Supp.2d 362, 392, 55 U.S.P.Q.2d 1168, 1190 (S.D. N.Y. 2000), *aff'd*, 237 F.3d 1359, 57 U.S.P.Q.2d 1647 (Fed. Cir. 2001).

Co-pending Application No. 09/965,905 does not render obvious the claimed invention of claim 1 under the judicially created doctrine of obviousness-type double patenting. Claim 1 of co-pending Application No. 09/965,905 is claiming a method of part flow for a programmable logic controller logical verification system including constructing a simulation model of a part flow in a manufacturing line using a computer, determining if the part flow represented in the simulation model is correct, using the part flow simulation model to test PLC code, and implementing the manufacturing line according to the part flow simulation model. Claim 1 of the present application does not claim this feature. Further, claim 1 of the present application claims a method of logical modeling operator interaction with a programmable logic controller logical verification system including constructing a flowchart of interaction of an operator in a workcell using a computer, testing whether logic of the flowchart is correct, using the flowchart to test PLC code, and building the workcell if the logic of the flowchart is correct. Claim 1 of co-pending Application No. 09/965,905 does not claim this feature. Therefore, it is

respectfully submitted that claim 1 of the present application is allowable over the judicially

created doctrine of obviousness-type double patenting.

35 U.S.C. § 101

Claims 1 through 15 were rejected under 35 U.S.C. § 101 because the claimed

invention is allegedly directed to non-statutory subject matter. Applicants respectfully traverse

this rejection.

As to inventions patentable, 35 U.S.C. § 101 provides that:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The plain and unambiguous meaning of Section 101 is that any invention falling

within one of the four stated categories of statutory subject matter may be patented, provided it

meets the other requirements for patentability set forth in Title 35. A patent cannot be held

invalid under 35 U.S.C. § 101 pursuant to so-called "business method" exception to statutory

subject matter, since business methods are subject to the same legal requirements for patentability

as any other process or method. State Street Bank & Trust Co. v. Signature Financial Group Inc.,

47 U.S.P.Q.2d 1596 (Fed. Cir. 1998).

Claims 1 through 15 claim a method of logical modeling operator interaction with

a programmable logic controller logical verification system. As such, the method is useful and is

one of the statutory categories of patentable subject matter. The method of the present invention

therefore has utility. Contrary to the Examiner's opinion, the method is not carried out on paper.

The terms used in the claims are interpreted in light of the specification. In addition, claims 1

through 15 have been amended to include using a computer. As such, claims 1 through 15

require a computer and are <u>not</u> abstract ideas or mental steps. Therefore, it is respectfully submitted that claims 1 through 15 are allowable over the rejection under 35 U.S.C. § 101.

<u>35 U.S.C. § 112</u>

Claims 1 through 15 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants respectfully traverse this rejection.

Although Applicants disagree with the rejection, to further prosecution of the application, claims 1, 9, and 15 have been amended to clarify these claims by reciting that the step of constructing is "constructing a flowchart of interaction of an operator in a workcell using a computer". Claims 1, 9, and 15 have further been amended to clarify the step of "using" by adding "building the workcell if the logic of the flowchart is correct". As such, these claims are clear and definite. It is respectfully submitted that claims 1 through 15 are allowable over the rejection under 35 U.S.C. § 112, second paragraph.

<u>35 U.S.C. § 102</u>

Claims 1 through 15 were rejected under 35 U.S.C. § 102(b) as being anticipated by "Handbook of Simulation", edited by Jerry Banks. Applicants respectfully traverse this rejection.

The "Handbook of Simulation", edited by Jerry Banks, discloses principles, methodology, advances, applications, and practice. An entity represents an object that requires explicit definition. An entity can be dynamic in that it "moves" through the system, or it can be static in that it serves other entities. An entity may have attributes that pertain to that entity alone. Thus attributes should be considered local values. A resource is an entity that provides
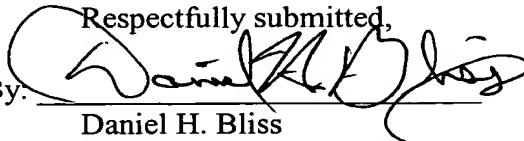
service to dynamic entities. The resource can serve one or more than one dynamic entity at the same time (i.e., operate as a parallel server). A dynamic entity can request one or more units of a resource. Verification concerns the operational model. Is it performing properly? Validation is the determination that the conceptual model is an accurate representation of the real system. If the client has been involved throughout the study period, and the simulation analyst has followed all the steps rigorously, the likelihood of a successful implementation is increased. Banks does not disclose constructing a flowchart of interaction of an operator in a workcell using a computer and testing whether logic of the flowchart is correct. Banks also does not disclose using the flowchart to test PLC code and building the workcell if the logic of the flowchart is correct.

In contradistinction, independent claim 1, as amended, clarifies the invention claimed as a method of logical modeling operator interaction with a programmable logic controller logical verification system. The method includes the steps of constructing a flowchart of interaction of an operator in a workcell using a computer and testing whether logic of the flowchart is correct. The method also includes the steps of using the flowchart to test PLC code and building the workcell if the logic of the flowchart is correct. Independent claims 9 and 15 have been amended similar to claim 1 and include other features of the present invention.

A rejection grounded on anticipation under 35 U.S.C. § 102 is proper only where the subject matter claimed is identically disclosed or described in a reference. In other words, anticipation requires the presence of a single prior art reference which discloses each and every element of the claimed invention arranged as in the claim. In re Arkley, 455 F.2d 586, 172 U.S.P.Q. 524 (C.C.P.A. 1972); Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983); Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 U.S.P.Q. 481 (Fed. Cir. 1984).

Banks does not disclose or anticipate the claimed invention of claims 1 through 15. Specifically, Banks merely discloses a handbook of simulation in which an entity can be dynamic in that it "moves" through the system, verification of an operational model, and validation of the conceptual model being an accurate representation of the real system. Banks lacks constructing a flowchart of interaction of an operator in a workcell using a computer and testing whether logic of the flowchart is correct. Banks also lacks using the flowchart to test PLC code and building the workcell if the logic of the flowchart is correct. In Banks, there is no logical modeling of operator interaction with a programmable logic controller logical verification system. As such, Banks fails to disclose the combination of a method of logical modeling operator interaction with a programmable logic controller logical verification system including the steps of constructing a flowchart of interaction of an operator in a workcell using a computer, testing whether logic of the flowchart is correct, using the flowchart to test PLC code, and building the workcell if the logic of the flowchart is correct as claimed by Applicants. Therefore, it is respectfully submitted that claims 1 through 15 are allowable over the rejection under 35 U.S.C. § 102(b).

Based on the above, it is respectfully submitted that the claims are in a condition for allowance, which allowance is solicited.

Respectfully submitted,

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